# WM-DDIII

# SERVICE MANUAL

**Refer t MDR-15L Service Manual issued previously for informati n of headphones supplied with this set.**

*AEP Model*

PHOTO: BLACK TYPE

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
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## SPECIFICATIONS

| Similar Mechanism Set | WM-DD |
|---|---|
| Tape Transport Mechanism Type | DD-100 |

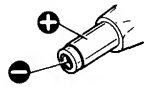
Tape track
4-track 2-channel stereo
Fast winding time
Approx. 2 min. with Sony Cassette C-60
Frequency response
40–15,000 Hz
Wow and flutter
±0.13% (DIN)
0.08% WRMS (NAB)
Power output
Headphones:
20 mW + 20 mW (at 10% harmonic distortion)
load impedance 32 ohms
at DC operation
Outputs
Two HEADPHONES jacks (stereo minijacks)
load impedance 8–300 ohms
Power requirements
3 V DC, two R6 (size AA) batteries
DC IN 3 V jack accepts:
EBP-500 battery case (optional) for use on two R20 (size D) batteries
AC-D2M AC power adaptor (optional) for use on 220 V AC, 50 Hz
DCC-70 or DCC-127A car battery cord (optional) for use with 12 V car battery
(For connection with the DCC-127A, the optional PC-200 DC plug adaptor is required.)
Battery life

| Batteries | Continuous playback hours |
|---|---|
| Sony batteries SUM-3 (NS) | Approx. 4 |
| Sony alkaline batteries AM3 | Approx. 9 |

For maximum performance we recommend the use of alkaline batteries.

Dimensions
Approx. 79.7 × 110 × 32.8 mm (w/h/d)
($3\frac{1}{4} \times 4\frac{3}{8} \times 1\frac{5}{16}$ inches)
incl. projecting parts and controls
Weight
Approx. 290 g (10.3 oz) incl. batteries, not incl. other accessories

**Note:** If a car battery cord or an AC power adaptor not manufactured by Sony is used, a fuse must be installed in the battery cord or the AC power adaptor and the polarity of the plug must be as illustrated.



## FEATURES

- **Disc Drive system** assures accurate and stable tape transport, greatly reducing wow and flutter.
- **Dolby NR system** reduces tape hiss noise.
- **Tape selector** for optimum playback with standard tapes as well as high-performance tapes.
- **Two HEADPHONES jacks** allow two persons to listen to tape playback together.

## STEREO CASSETTE PLAYER

SONY®

**Replacing chip components**

All chip components should be connected and disconnected, using a tapered soldering iron [temperature of the iron tip: less than 280°C (536°F)], a pair of tweezers and braided wire.

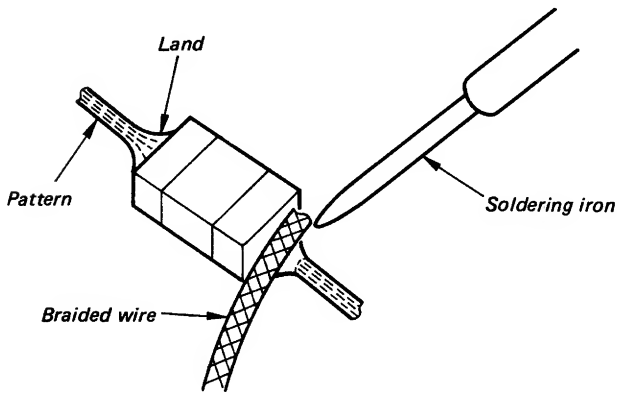
**Precautions for replacement**

1. **Do not disconnect the chip component forcefully. Otherwise, the pattern may peel off.**
2. **Never re-use a disconnected chip component. Dispose of all old chip components.**
3. **To protect the chip component, heating time for attaching the component should be within 3 seconds.**

○ **Removing chip components**

**(1) Removing solder at electrode**

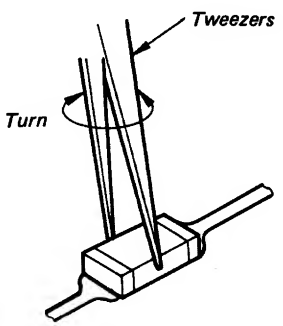
Remove the solder at the electrode, using a thin braided wire. Do not remove the solder of the part (chip component) attached adjacent to the electrode.




**(2) Disconnecting chip components**

Turn the tweezers with the soldering iron alternately applied to both electrodes, and the chip component will be disconnected. Take careful precautions while disconnecting, because if the chip component is forcefully removed the land may peel off.

Never re-use a disconnected chip component.




**(3) Smoothing the soldered surface**

After disconnecting the chip component, remove the solder by using a braided wire to smooth the land surface.

○ **Connecting chip components**

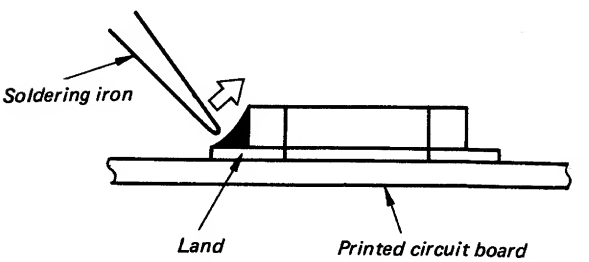
The value of chip components is not displayed on the main body. Take due precautions to avoid mixing new chip components with other ones.

**(1) Applying solder to land on one side**

Apply a thin layer of solder to the land on one side where the chip component is to be connected. Too much solder may cause bridging.

**(2) Speedy soldering**

Hold the chip component at the desired position, using tweezers, and apply the soldering iron in the arrow-marked direction. To protect the chip component, heating time should be within 3 seconds.




**(3) Speedy soldering of electrode on the other side**

Solder the electrode on the other side in the same way as in (2) above.

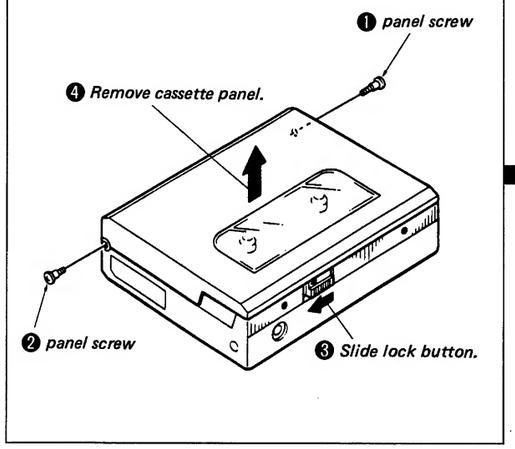
# SECTION 1
# MECHANICAL OPELATION

MECHANICAL OPERATION in this set is the same as that of model WM-DD, so refer to WM-DD service manual previously issued for MECHANICAL OPERATION.

# SECTION 2
# DISASSEMBLY

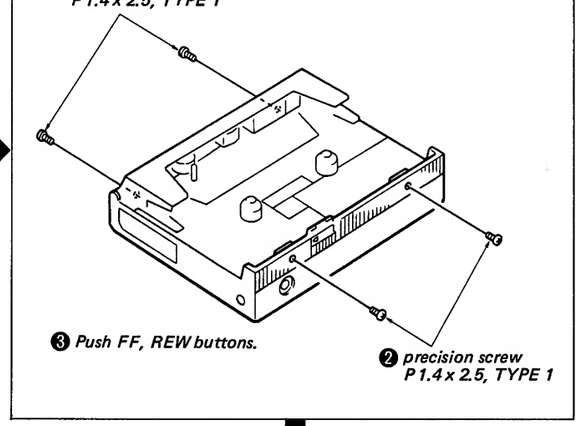
**Note:** Follow the disassembly procedure in the numerical order given.

**Cassette Panel**

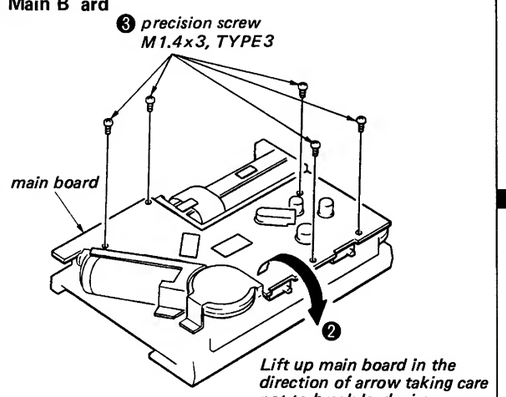



**Control Panel**

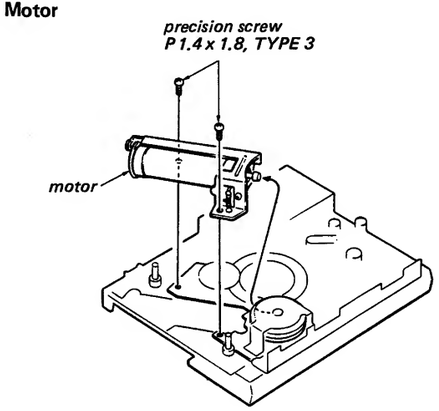
**Note:** Control panel can be removed with cassette panel installed.



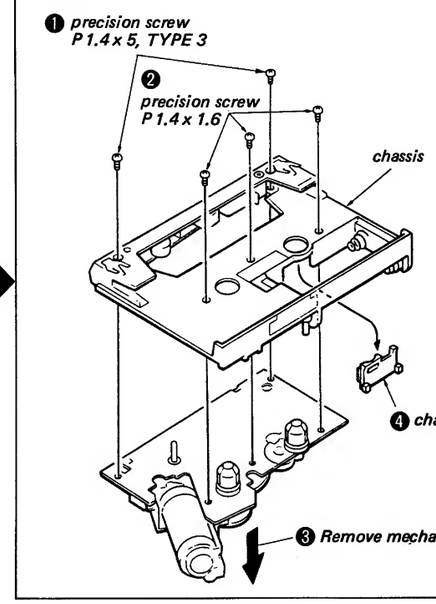

**Main B ard**




**Motor**

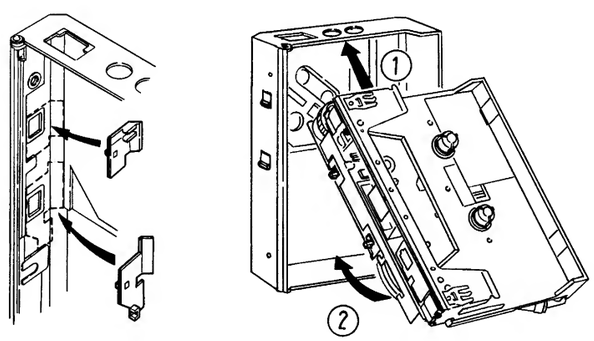



**Chassis**

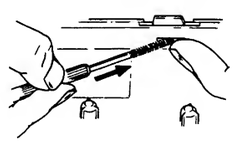



**Note for reassembling:**

(A) (B)




**(Installing the compression spring)**

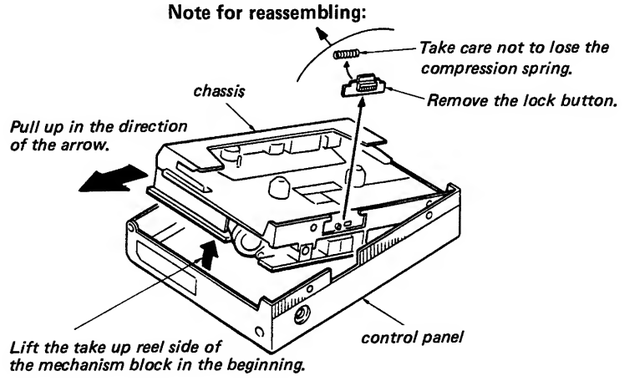


*A) Insert the portion (A) of DOLBY BUTTON and TAPE BUTTON into the slit as shown.*

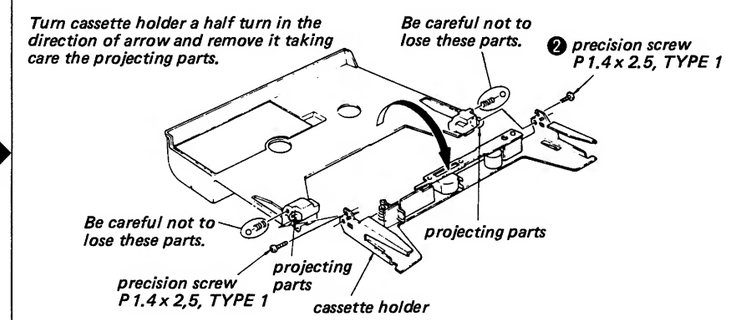
*B) Set the control panel up. Set DOLBY SWITCH and TAPE SWITCH on the main board at OFF position and METAL. Then put the mechanical unit into the control panel following the numbers (1) and (2).*

**Chassis**

**Note for reassembling:**




**Cassette holder**




**Pinch roller and head can be replaced.**

# SECTION 3
# ADJUSTMENTS

## PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:

   playback head  pinch roller
   capstan

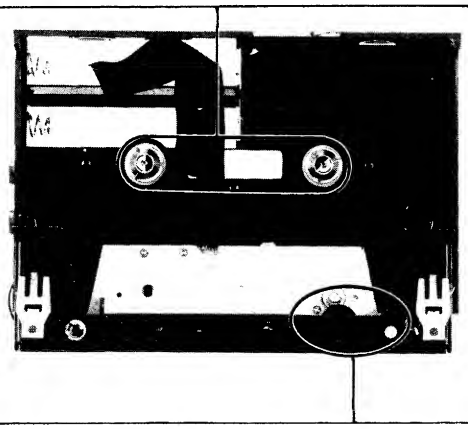
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

## 3-1. MECHANICAL ADJUSTMENT

### Torque Measurement

Perform with 2.5 V DC power.

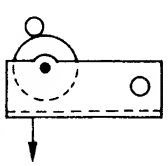
| | Torque meter | Meter reading |
|---|---|---|
| FWD | CQ-102C | 22 – 46 g·cm (0.3 – 0.63 oz·inch) |
| FF, REW | CQ-201B | More than 65 g·cm (More than 9.04 oz·inch) |
| Back Tension | CQ-102C | 1 – 3.5 g·cm (0.01 – 0.05 oz·inch) |
| Tape Pulling Force | CQ-403 | More than 80 g·cm (More than 11.12 oz·inch) |



### Pinch Roller Pressure Adjustment

— Playback Mode —

1. Pull the spring scale in the direction shown by the arrow.
2. Slowly return the pinch roller and read the spring scale just when the pinch roller starts rotating.

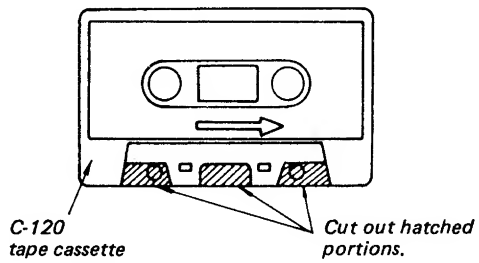


**Specification:**

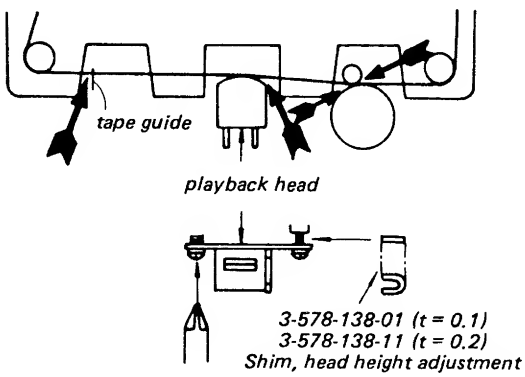
170 ± 20 g (5.3 ~ 6.7 oz)

### Head Height Adjustment

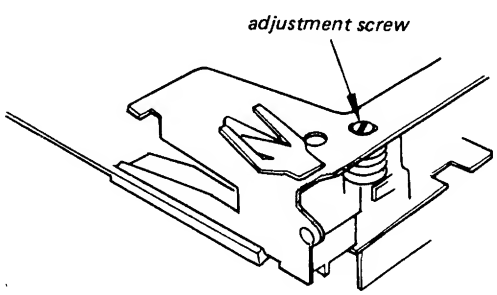
1. Prepare an adjustment cassette as shown below.




2. In playback mode and viewing from the front, adjust the head heights to eliminate tape curl and tape twist at portions shown by the arrow.

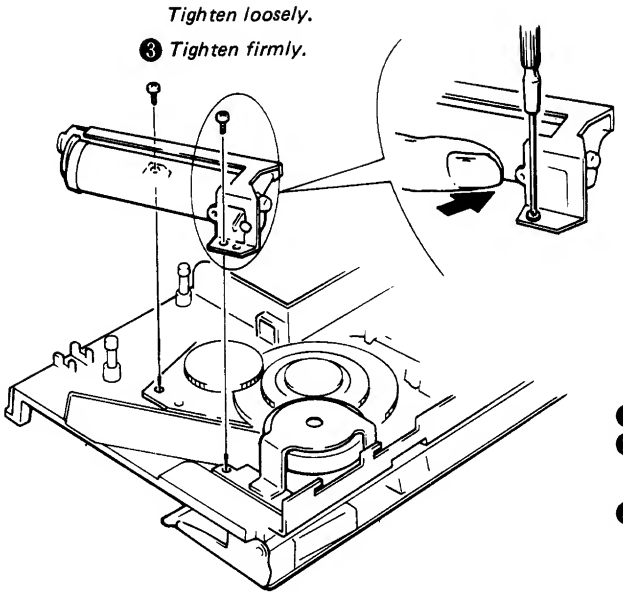



3. If necessary, adjust the height of the tape-guide by turning the adjustment screw.




4. Apply locking compound on adjustment screw.

## 1. Motor section installation




❶ *Tighten screw loosely.*
❷ *Tighten screw while pressing the motor section lightly in the direction of the arrow.*
❸ *Tighten the screw.*

## 2. Wow & flutter and motor position

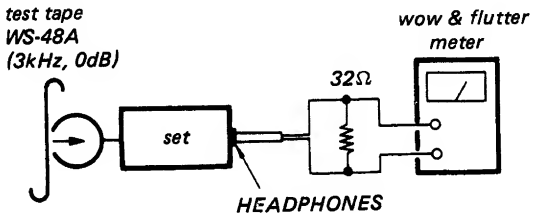
1. Adjust with the adjustment screw so that rotor thrust play is within 0.1mm. (When confirming play, press motor down so that the motor pulley and rotor rubber section do not touch.)
2. Wow & flutter adjustment

**Setting:**

Power supply voltage: 2.5V
Tape: Adjust by using end portion of tape.
VOLUME control: mechanical mid
TAPE SELECT switch: NORM
DOLBY NR switch: OFF

**Procedure:**

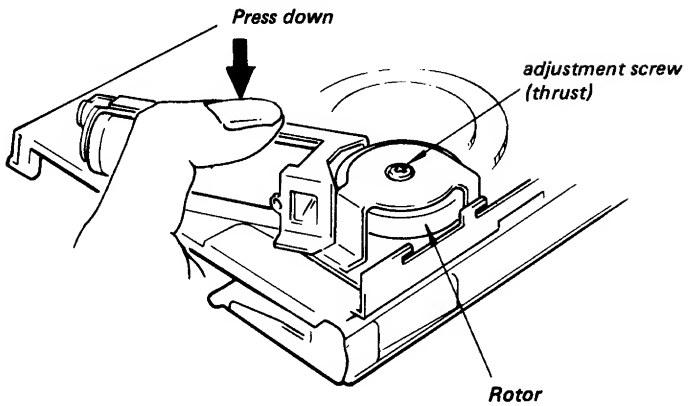
① Mode: playback

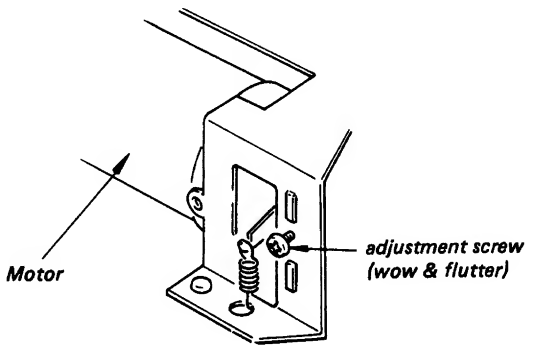



Turn the adjustment screw so that the wow and flutter meter reads minimum (less than 0.12% W·RMS).

② At 2V power supply voltage, confirm normal FWD operation.

③ When ① and ② are not satisfied, repeat adjustment again starting with "Motor Section Installation".



## 2-2. ELECTRICAL ADJUSTMENTS

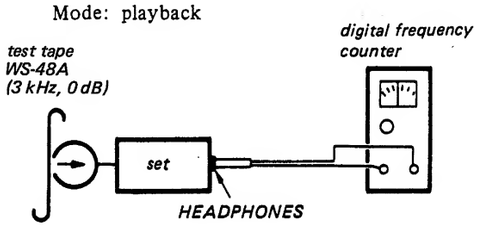
### Tape Speed Adjustment

**Setting:**

VOLUME control: mechanical mid
TAPE SELECT switch: NORM
DOLBY NR switch: OFF

**Procedure:**

Mode: playback



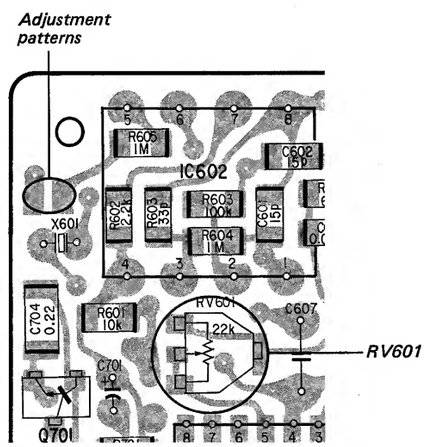

1. Open the solder bridge shown below.
2. Turn RV601 so that frequency reading becomes in 3090 Hz ± 10 Hz. (at the ending part of the test tape)
3. Resolder the adjustment patterns opened in step 2 above. Now frequency reading should becomes in 3000 Hz ± 9 Hz.

**Specification:**

| Digital frequency counter |
|---|
| 3000 Hz ± 9 Hz |

**Adjustment Location:**

*– main board –*



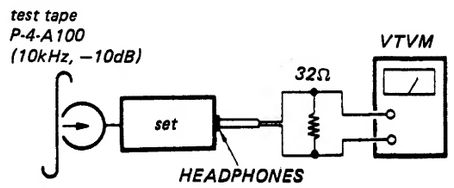

### Playback Head Azimuth Adjustment

**Setting:**

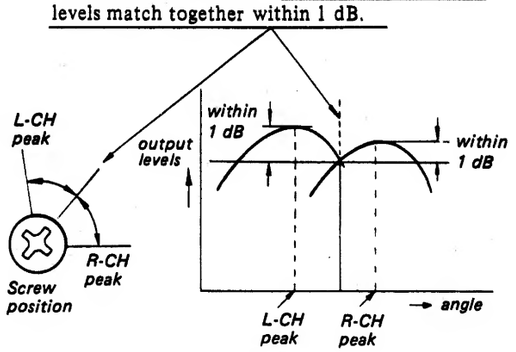
VOLUME control: mechanical mid
TAPE SELECT switch: NORM
DOLBY NR switch: OFF

**Procedure:**

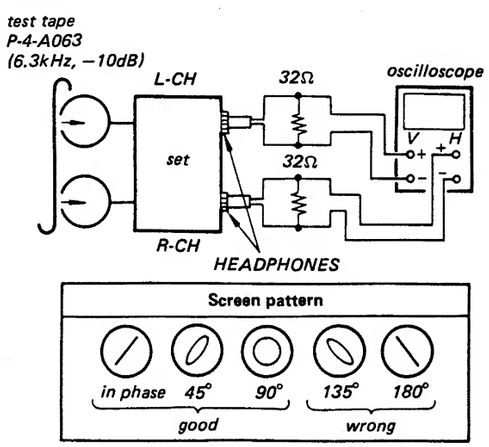
1. Mode: playback



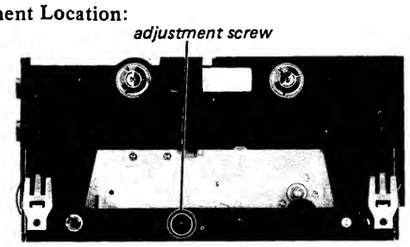

2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1 dB.




3. Phase Check
   Mode: playback




**Adjustment Location:**



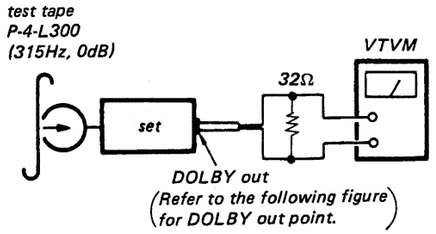

### Playback Level Adjustment

**Setting:**

VOLUME control: mechanical mid
TAPE SELECT switch: NORM
DOLBY NR switch: OFF

**Procedure:**

Mode: playback



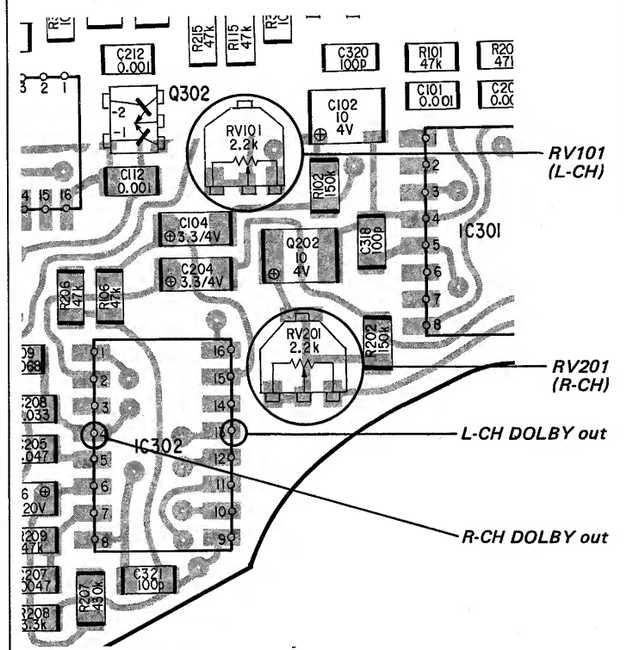

**Specification:**

DOLBY out level: 0.073 V (–20.5 ± 0.2 dB)

1) If necessary, adjust RV101 (L-CH) and RV201 (R-CH) for the specification.
2) Confirm that the output level of DOLBY out is not changed when repeating playback and stop.

**Adjustment Location:**

*– main board –*

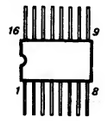


# SECTION 4
# DIAGRAMS

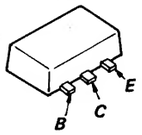
## Semiconductor Lead Layouts

**MSM58141RS**

**BA3304F**
**NJM2063AM**
**TA7688F**
**CX20084**

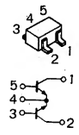



**2SA812**
**2SC1623**
**2SB624-BV4**
**2SD596**

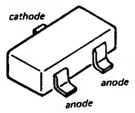



**2SB798**

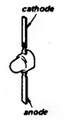
**FMW1**



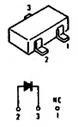

**1S2837**




**SR506D**




**RD7.5M-B1**




## Semiconductor Location

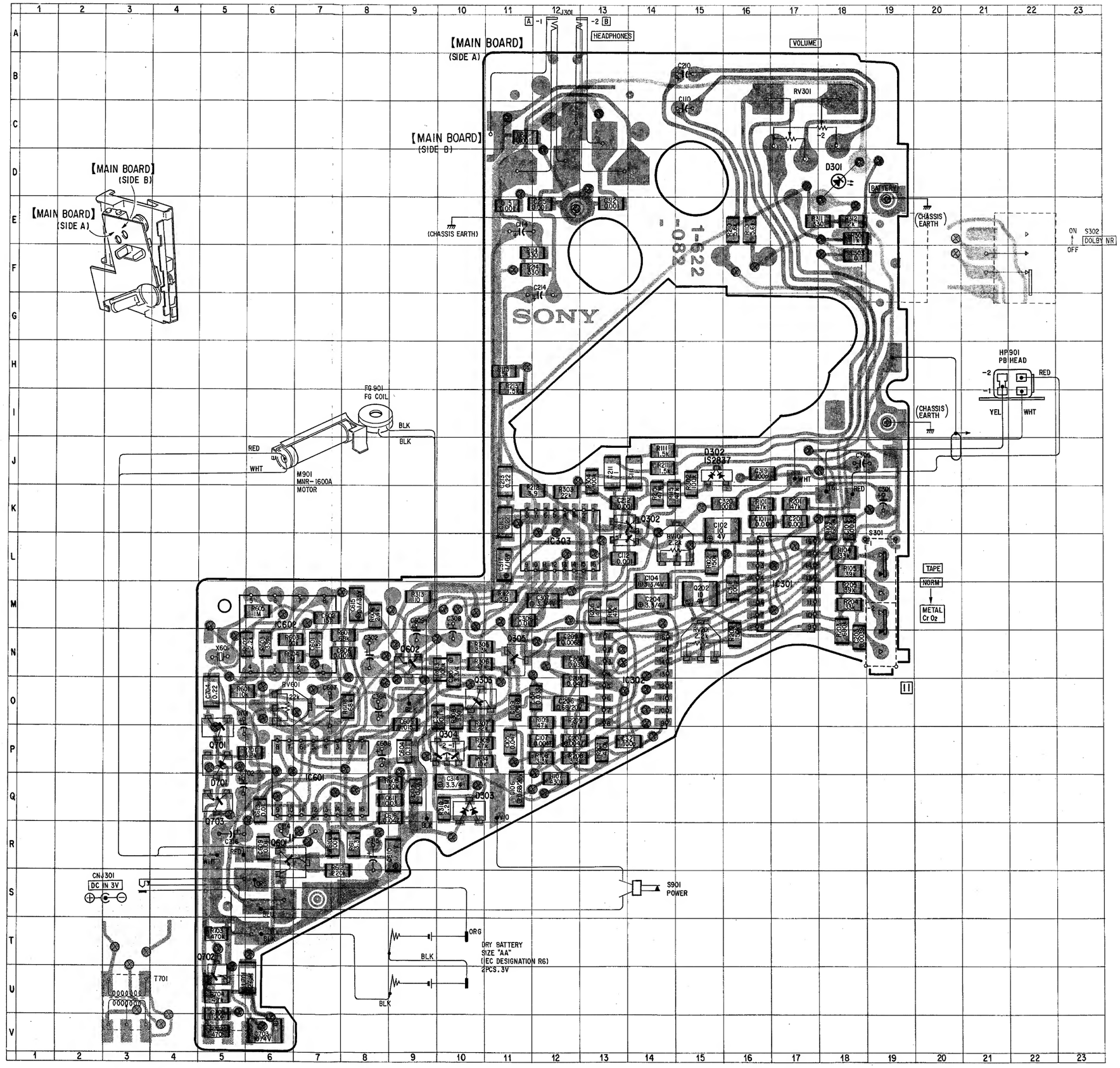
| Ref. N . | Descripti n | R f. No. | Description |
|---|---|---|---|
| D301 | D-18 | Q302 | K-13 |
| D302 | J-15 | Q303 | O-10 |
| D303 | Q-10 | Q304 | P-10 |
| D701 | P-5 | Q305 | N-11 |
| | | Q601 | R-6 |
| IC301 | M-17 | Q602 | N-9 |
| IC302 | O-14 | Q701 | P-5 |
| IC303 | L-12 | Q702 | U-5 |
| IC601 | Q-7 | Q703 | Q-5 |
| IC602 | N-6 | | |

**N te:**

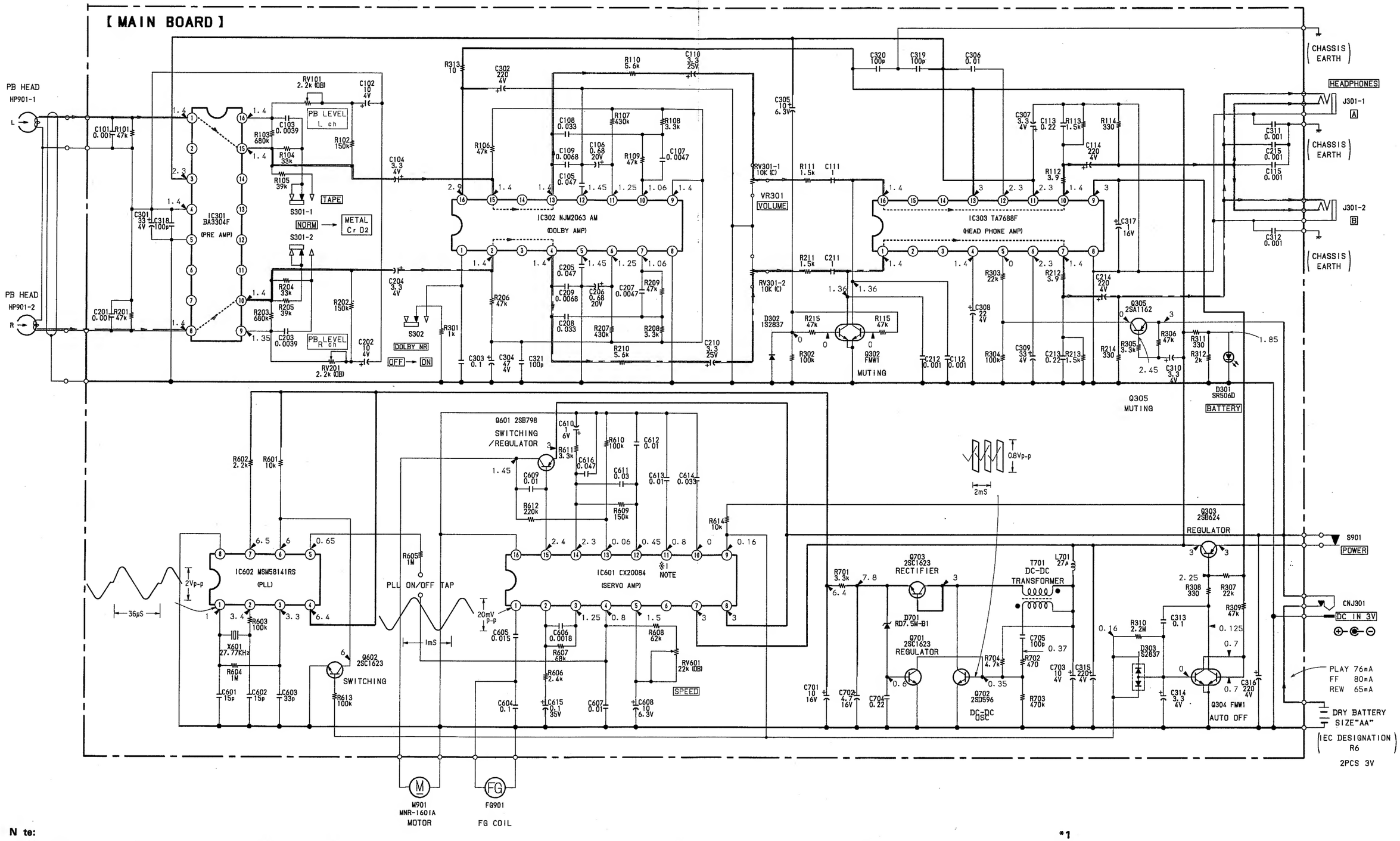
- ○— : parts extracted from the component side.
- ● —— : parts extracted from the conductor side.
- ● ■ : part mounted on the conductor side.
- ⊗ : Through hole.
- ▒▒ : component-side pattern.



## 3-1. MOUNTING DIAGRAM



## 3-2. SCHEMATIC DIAGRAM




**N te:**

All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.

All resistors are in Ω and 1/4W or less unless otherwise specified.

▬▬▶ : L-CH signal path

▬ ▬▶ : R-CH signal path

- ▬▬ : B+ bus.

▭ : adjustment for repair.

Power voltage is 3 V and fed with regulated dc power supply from

Voltage variations may be noted due to normal production tolerances.

Waveforms are taken to ground in PLAY mode by using oscilloscope.

Voltage variations may be noted due to normal production tolerances.

**Switches:**

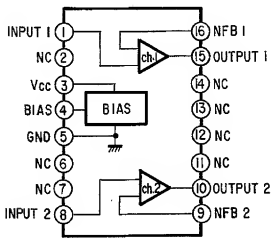
| Ref. No. | Switch | Positi n |
|---|---|---|
| S301 | TAPE | NORM |
| S302 | DOLBY NR | OFF |
| S901 | POWER | ON |

***1**

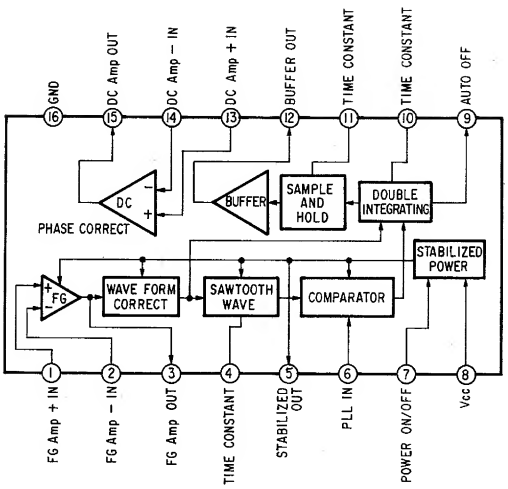
- Touching the pin No. 11 of IC601 with the tester probe causes an extra vibration inside the IC, which will be heard from the phones as a high-pitched sound.
- If the pin No. 11 of IC601 is touched with the tester probe, the voltage there will increase, and after about 1 second it will get higher than 0.8V, so that the motor M901 will stop.

## IC BLOCK DIAGRAMS

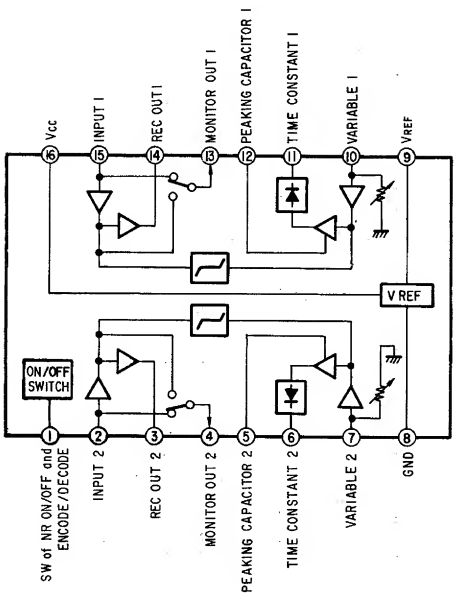
### IC301 BA3304F



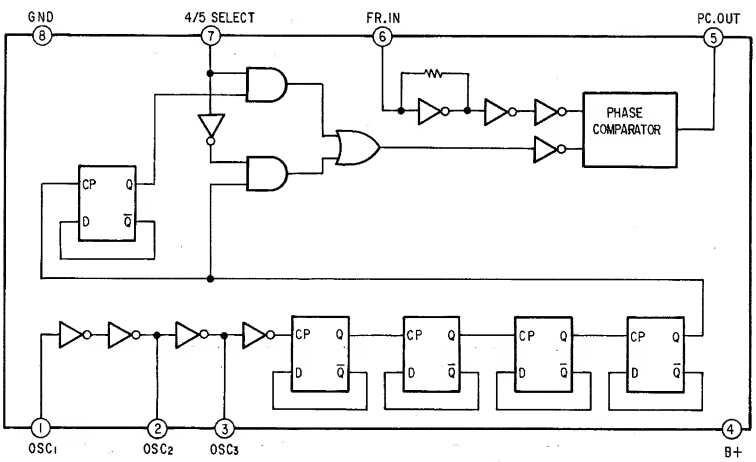

### IC601 CX20084



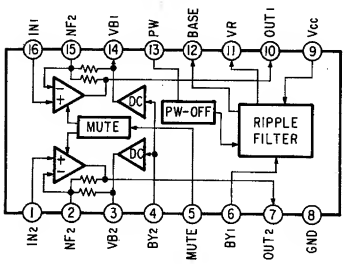

### IC302 NJM2063AM




### ● IC602 MSM58141RS




### IC303 TA7688F

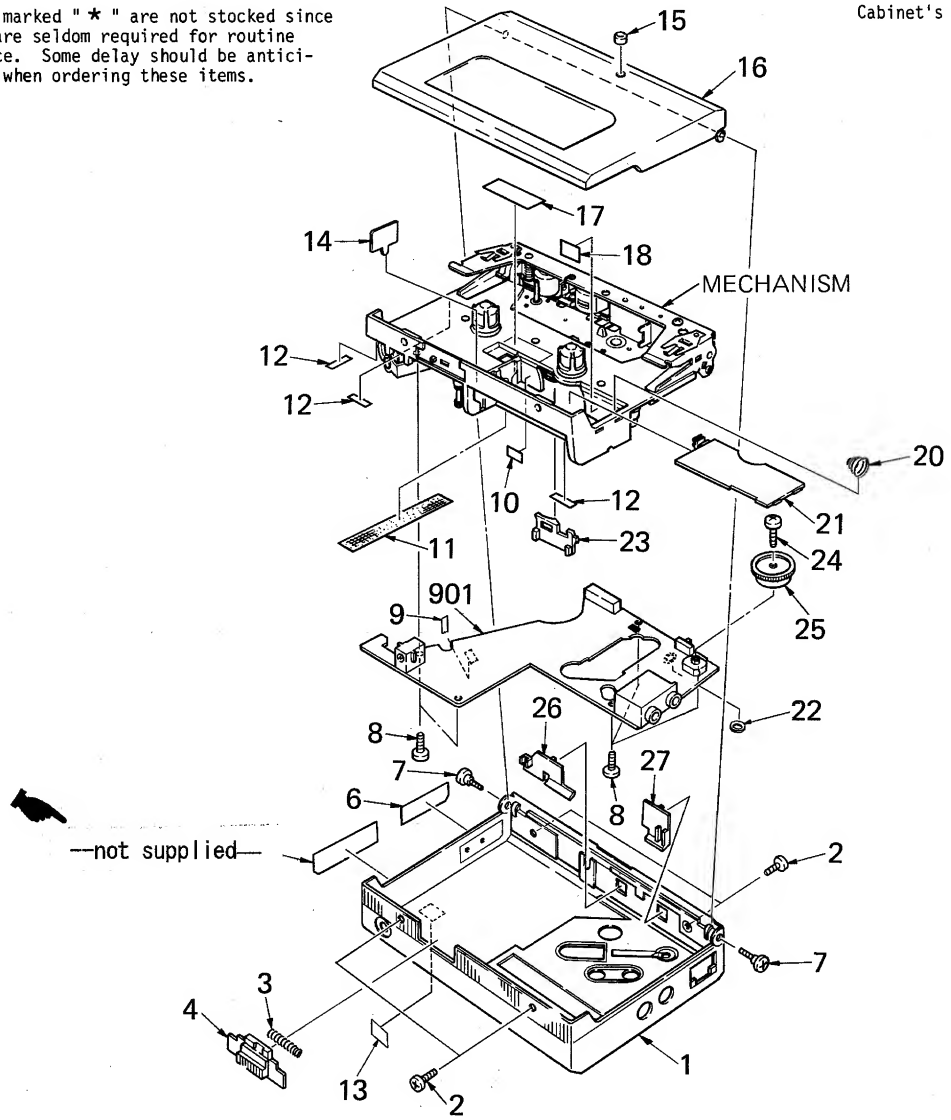


REVISED

# SECTION 5
# EXPLODED VIEWS AND PARTS LIST

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color Indication of Appearance Parts
  Example: (RED) ..... KNOB, BALANCE (WHITE)
  ↑ Cabinet's Color ↑ Parts' Color

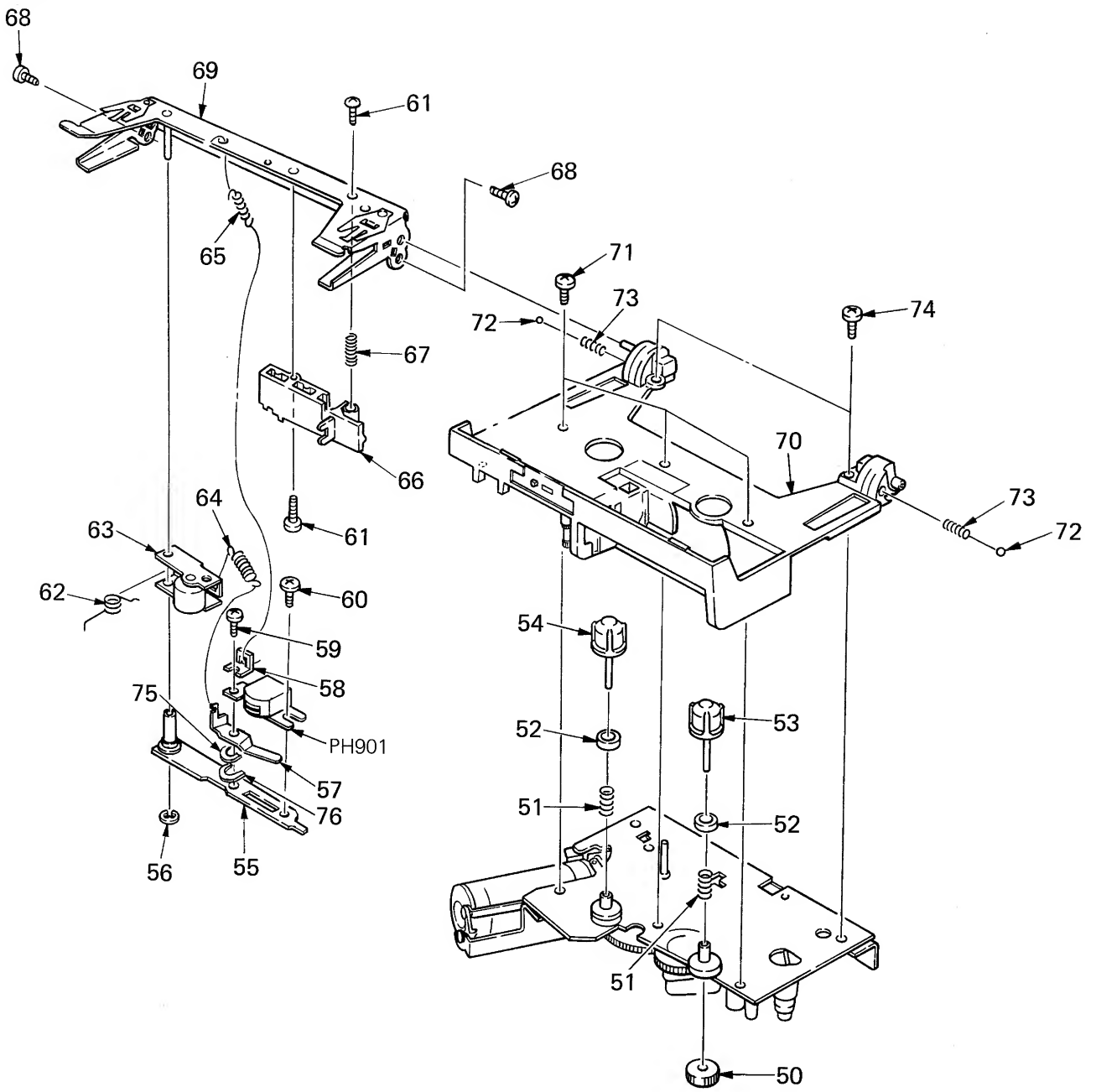
5-1.




| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 1 | X-3310-950-1 | (SILVER)...PANEL ASSY, CONTROL | |
| | X-3310-951-1 | (BLACK)....PANEL ASSY, CONTROL | |
| | X-3310-952-1 | (RED).....PANEL ASSY, CONTROL | |
| 2 | 3-704-246-31 | (SILVER).....SCREW (P1.4X2.5) | |
| | 3-704-246-32 | (BLACK,RED)...SCREW (P1.4X2.5) | |
| 3 | 3-310-947-00 | SPRING, COMPRESSION | |
| 4 | 3-310-983-02 | BUTTON, LOCK | |
| ~~5~~ | ~~3-324-435-01~~ | ~~(SILVER,RED)...LABEL, DI~~ | --not supplied-- |
| | ~~3-324-435-11~~ | ~~(BLACK).....LABEL, DI~~ | --not supplied-- |
| 6 | *3-324-430-01 | (SILVER).....LABEL, MODEL NUMBER | |
| | *3-324-430-11 | (BLACK,RED)...LABEL, MODEL NUMBER | |
| 7 | 3-307-831-00 | SCREW, PANEL | |
| 8 | 3-335-797-21 | SCREW (M1.4X3), TOOTHED LOCK | |
| 9 | 3-831-441-11 | CUSHION (B) | |
| 10 | 9-911-838-XX | CUSHION, METER | |
| 11 | 9-911-816-01 | CLOTH, DRAWER, BATTERY | |
| 12 | 3-831-441-XX | SPACER | |
| 13 | 3-703-710-01 | STICKER, SONY SYMBOL (12) | |
| 14 | 3-578-109-00 | CONTACT | |

| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 15 | 3-578-232-00 | (SILVER)...ORNAMENT, ADJUSTMENT HOLE | |
| | 3-578-232-11 | (RED).....ORNAMENT, ADJUSTMENT HOLE | |
| | 3-578-232-21 | (BLACK)....ORNAMENT, ADJUSTMENT HOLE | |
| 16 | X-3310-953-1 | (SILVER)...PANEL ASSY, CASSETTE | |
| | X-3310-954-1 | (BLACK)....PANEL ASSY, CASSETTE | |
| | X-3310-955-1 | (RED).....PANEL ASSY, CASSETTE | |
| 17 | 3-578-101-00 | PLATE, ORNAMENTAL | |
| 18 | *3-701-999-00 | LABEL, SERIAL NUMBER | |
| 20 | 3-578-236-00 | SPRING (BATTERY) | |
| 21 | 3-578-115-00 | LID, BATTERY CASE | |
| 22 | *3-324-415-01 | CUSHION | |
| 23 | 3-578-114-00 | PANEL, CHASSIS | |
| 24 | 7-627-850-58 | SCREW, PRECISION +P 1.4X3.5 | |
| 25 | 3-324-431-01 | KNOB, VOL | |
| 26 | 3-310-979-01 | BUTTON, SELECTION, TAPE | |
| 27 | 3-310-978-01 | BUTTON, SELECTION, NR (DOLBY) | |
| 901 | A-3216-178-A | PC BOARD ASSY, MAIN | |

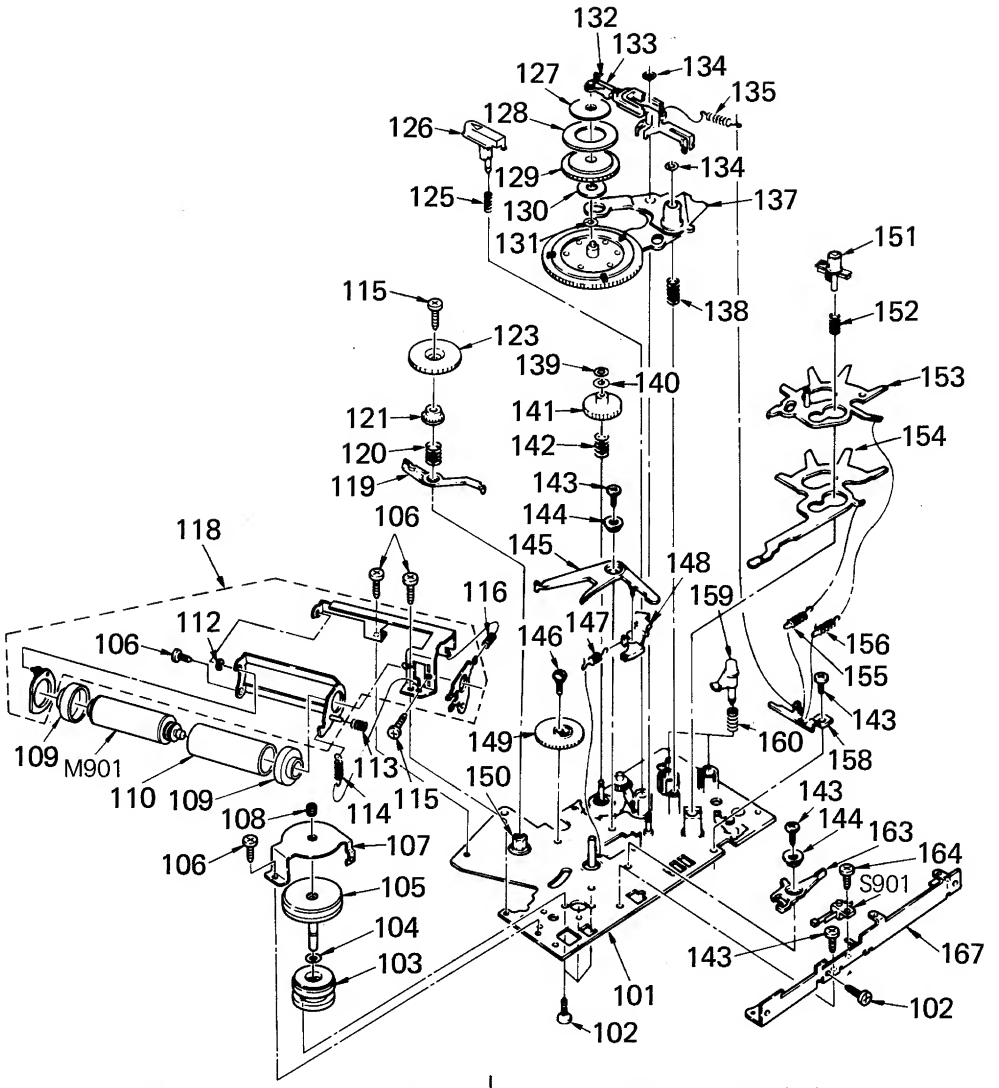
5-2.




| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 50 | 3-578-158-00 | GEAR, S | |
| 51 | 3-578-123-00 | SPRING, COMPRESSION | |
| 52 | 3-310-958-00 | WASHER | |
| 53 | X-3578-126-0 | CLAW ASSY, REEL | |
| 54 | X-3578-115-0 | CLAW ASSY, REEL | |
| 55 | *X-3578-105-0 | CHASSIS ASSY, HEAD | |
| 56 | 3-578-254-00 | RING, RETAINING, E1.2 | |
| 57 | 3-578-181-00 | SPRING, HEAD | |
| 58 | 3-310-971-01 | HOOK, SPRING | |
| 59 | 7-627-553-37 | SCREW, PRECISION +P 2X3 | |
| 60 | 7-627-554-17 | SCREW, PRECISION +P 2X3.5 | |
| 61 | 7-627-553-98 | SCREW, PRECISION +P 2X8 | |
| 62 | 3-578-146-00 | SPRING | |
| 63 | X-3578-137-0 | PINCH ROLLER ASSY | |
| 64 | 3-578-220-00 | SPRING, TENSION | |

| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 65 | 3-545-588-00 | SPRING, TENSION | |
| 66 | X-3310-935-1 | COVER ASSY, ERASE HEAD | |
| 67 | 3-578-128-00 | SPRING, COMPRESSION | |
| 68 | 7-627-551-28 | SCREW, PRECISION +P 1.4X2.5 | |
| 69 | X-3310-908-0 | HOLDER ASSY | |
| 70 | X-3310-910-0 | CHASSIS ASSY | |
| 71 | 7-627-850-48 | +P 1.4X1.6 | |
| 72 | 7-671-112-01 | STEEL, BALL (2m/m) | |
| 73 | 3-578-127-00 | SPRING, COMPRESSION | |
| 74 | 7-627-851-27 | SCREW, PRECISION +P 1.4X5 | |
| 75 | 3-578-138-01 | SEAM (t=0.1) | |
| 76 | 3-578-138-11 | SEAM (t=0.2) | |
| HP901 | 1-543-423-11 | HEAD, MAGNETIC (PLAYBACK) | |

5-3.




| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 101 | *X-3310-909-0 | CHASSIS ASSY, SUB | |
| 102 | 7-627-451-87 | SCREW, PRECISION +K 1.4X2.2 | |
| 103 | X-3310-907-0 | STATOR ASSY | |
| 104 | 3-701-438-01 | WASHER | |
| 105 | X-3310-905-0 | ROTOR ASSY | |
| 106 | 7-627-850-79 | SCREW, PRECISION +P 1.4X1.8 TYPE3 | |
| 107 | 3-310-930-00 | PLATE, THRUST | |
| 108 | 3-547-625-00 | SCREW, THRUST ADJUST | |
| 109 | 3-310-939-00 | RUBBER, VIBRATION PROOF | |
| 110 | 3-310-938-00 | PLATE, SHIELD | |
| 112 | 7-624-102-04 | STOP RING 1.5, TYPE -E | |
| 113 | 3-310-993-01 | SPRING, COMPRESSION | |
| 114 | 3-310-948-00 | SPRING, TENSION | |
| 115 | 7-627-851-17 | SCREW, PRECISION +P 1.4X4.5 | |
| 116 | 3-310-921-00 | SPRING, COMPRESSION | |
| 118 | X-3310-932-1 | MOTOR BRAKET | |
| 119 | 3-578-154-00 | LEVER, DETECTION | |
| 120 | 3-578-124-00 | SPRING, COMPRESSION | |
| 121 | 3-578-244-01 | GEAR, FF | |
| 123 | 3-310-914-00 | GEAR, FWD | |
| 125 | 3-578-249-00 | SPRING, COMPRESSION (FWD BUTTON) | |
| 126 | X-3310-949-1 | BUTTON ASSY, PLAY | |
| 127 | 3-310-916-00 | PLATE (B), HYSTERESIS | |
| 128 | 3-310-920-00 | PLATE (C), HYSTERESIS | |
| 129 | 3-310-915-11 | GEAR (B), DRIVING | |
| 130 | 3-578-276-11 | WASHER (10) | |
| 131 | 3-578-224-00 | WASHER (1.2 t=0.25) | |
| 132 | 3-578-130-00 | SPRING | |
| 133 | X-3578-121-0 | LEVER ASSY, FWD | |
| 134 | 3-578-224-11 | WASHER (1.2 t=0.188) | |

| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 135 | 3-310-959-00 | SPRING, TENSION | |
| 137 | X-3578-142-0 | LEVER (A) ASSY, DRIVING | |
| 138 | 3-578-199-00 | SPRING, COMPRESSION | |
| 139 | 3-578-265-00 | WASHER | |
| 140 | 3-310-992-01 | WASHER (t=0.13) | |
| | 3-310-992-11 | WASHER (t=0.1) | |
| | 3-310-992-21 | WASHER (t=0.08) | |
| 141 | 3-578-162-00 | GEAR, REW | |
| 142 | 3-578-221-00 | SPRING, COMPRESSION | |
| 143 | 3-578-267-00 | SCREW (+P1.4X1.6), PRECISION | |
| 144 | *3-578-149-00 | SHAFT, LEVER (A), SHUT-OFF | |
| 145 | 3-578-157-00 | LEVER (B), SHUT-OFF | |
| 146 | 3-578-214-00 | SHAFT, GEAR, SHUT-OFF | |
| 147 | 3-578-126-00 | SPRING, TENSION | |
| 148 | 3-305-509-00 | LEVER (A), SHUTT-OFF | |
| 149 | 3-578-178-00 | GEAR, SHUT-OFF | |
| 150 | 3-578-151-00 | SHAFT, GEAR, FWD | |
| 151 | X-3310-948-1 | BUTTON ASSY, STOP | |
| 152 | 3-578-121-00 | SPRING, COMPRESSION | |
| 153 | X-3578-114-0 | PLATE ASSY, LOCK | |
| 154 | 3-310-935-00 | LEVER, SWITCH | |
| 155 | 3-561-627-00 | SPRING, TENSION | |
| 156 | 3-578-277-00 | SPRING, TENSION | |
| 158 | *3-578-196-00 | HOOK, SPRING | |
| 159 | X-3310-947-1 | BUTTON ASSY, F.R | |
| 160 | 3-578-278-00 | SPRING, COMPRESSION | |
| 163 | 3-578-183-00 | LEVER, RETURN, S | |
| 164 | 7-627-850-18 | SCREW, PRECISION +P 1.4X2.5 | |
| 167 | X-3310-936-1 | BRACKET ASSY, PANEL | |
| M901 | X-3310-922-1 | MOTOR | |
| S901 | 1-553-226-00 | SWITCH, LEAF (POWER) | |

# SECTION 6
# ELECTRICAL PARTS LIST

NOTE:
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC,
UPD...: μPD...

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | |
|---|---|---|---|---|
| 901 | A-3216-178-A | PC BOARD ASSY, MAIN | | |
| C101 | 1-163-141-00 | CERAMIC CHIP 0.001MF | 10% | 50V |
| C102 | 1-135-104-00 | TANTAL. CHIP 10MF | 20% | 4V |
| C103 | 1-163-016-00 | CERAMIC CHIP 0.0039MF | 10% | 50V |
| C104 | 1-135-103-00 | TANTAL. CHIP 3.3MF | 20% | 4V |
| C105 | 1-163-035-00 | CERAMIC CHIP 0.047MF | 10% | 25V |
| C106 | 1-135-087-21 | TANTAL. CHIP 0.68MF | 10% | 20V |
| C107 | 1-163-017-00 | CERAMIC CHIP 0.0047MF | 5% | 50V |
| C108 | 1-163-034-00 | CERAMIC CHIP 0.033MF | 5% | 25V |
| C109 | 1-163-019-00 | CERAMIC CHIP 0.0068MF | 10% | 50V |
| C110 | 1-124-436-00 | ELECT 3.3MF | 20% | 25V |
| C111 | 1-162-638-11 | CERAMIC CHIP 1MF | | 16V |
| C112 | 1-163-141-00 | CERAMIC CHIP 0.001MF | 10% | 50V |
| C113 | 1-163-081-00 | CERAMIC CHIP 0.22MF | | 25V |
| C114 | 1-124-434-00 | ELECT 220MF | 20% | 4V |
| C115 | 1-163-141-00 | CERAMIC CHIP 0.001MF | 10% | 50V |
| C201 | 1-163-141-00 | CERAMIC CHIP 0.001MF | 10% | 50V |
| C202 | 1-135-104-00 | TANTAL. CHIP 10MF | 20% | 4V |
| C203 | 1-163-016-00 | CERAMIC CHIP 0.0039MF | 10% | 50V |
| C204 | 1-135-103-00 | TANTAL. CHIP 3.3MF | 20% | 4V |
| C205 | 1-163-035-00 | CERAMIC CHIP 0.047MF | 10% | 25V |
| C206 | 1-135-087-21 | TANTAL. CHIP 0.68MF | 10% | 20V |
| C207 | 1-163-017-00 | CERAMIC CHIP 0.0047MF | 5% | 50V |
| C208 | 1-163-034-00 | CERAMIC CHIP 0.033MF | 5% | 25V |
| C209 | 1-163-019-00 | CERAMIC CHIP 0.0068MF | 10% | 50V |
| C210 | 1-124-436-00 | ELECT 3.3MF | 20% | 25V |
| C211 | 1-162-638-11 | CERAMIC CHIP 1MF | | 16V |
| C212 | 1-163-141-00 | CERAMIC CHIP 0.001MF | 10% | 50V |
| C213 | 1-163-081-00 | CERAMIC CHIP 0.22MF | | 25V |
| C214 | 1-124-434-00 | ELECT 220MF | 20% | 4V |
| C215 | 1-163-141-00 | CERAMIC CHIP 0.001MF | 10% | 50V |
| C301 | 1-124-431-00 | ELECT 33MF | 20% | 4V |
| C302 | 1-124-434-00 | ELECT 220MF | 20% | 4V |
| C303 | 1-163-038-00 | CERAMIC CHIP 0.1MF | | 25V |
| C304 | 1-124-432-00 | ELECT 47MF | 20% | 4V |
| C305 | 1-124-435-00 | ELECT 10MF | 20% | 6.3V |
| C306 | 1-163-021-00 | CERAMIC CHIP 0.01MF | 5% | 50V |
| C307 | 1-135-103-00 | TANTAL. CHIP 3.3MF | 20% | 4V |
| C308 | 1-124-430-00 | ELECT 22MF | 20% | 4V |
| C309 | 1-124-431-00 | ELECT 33MF | 20% | 4V |
| C310 | 1-135-103-00 | TANTAL. CHIP 3.3MF | 20% | 4V |
| C311 | 1-163-141-00 | CERAMIC CHIP 0.001MF | 10% | 50V |
| C312 | 1-163-141-00 | CERAMIC CHIP 0.001MF | 10% | 50V |
| C313 | 1-163-038-00 | CERAMIC CHIP 0.1MF | | 25V |
| C314 | 1-135-103-00 | TANTAL. CHIP 3.3MF | 20% | 4V |
| C315 | 1-124-434-00 | ELECT 220MF | 20% | 4V |

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | |
|---|---|---|---|---|
| C316 | 1-124-434-00 | ELECT 220MF | 20% | 4V |
| C317 | 1-135-091-00 | TANTAL. CHIP 1MF | 10% | 16V |
| C318 | 1-163-117-00 | CERAMIC CHIP 100PF | 10% | 50V |
| C319 | 1-163-117-00 | CERAMIC CHIP 100PF | 10% | 50V |
| C320 | 1-163-117-00 | CERAMIC CHIP 100PF | 10% | 50V |
| C321 | 1-163-117-00 | CERAMIC CHIP 100PF | 10% | 50V |
| C601 | 1-163-097-00 | CERAMIC CHIP 15PF | 5% | 50V |
| C602 | 1-163-097-00 | CERAMIC CHIP 15PF | 5% | 50V |
| C603 | 1-163-105-00 | CERAMIC CHIP 33PF | 5% | 50V |
| C604 | 1-163-038-00 | CERAMIC CHIP 0.1MF | | 25V |
| C605 | 1-163-023-00 | CERAMIC CHIP 0.015MF | 10% | 50V |
| C606 | 1-163-012-00 | CERAMIC CHIP 0.0018MF | 10% | 50V |
| C607 | 1-130-483-00 | MYLAR 0.01MF | 5% | 50V |
| C608 | 1-124-435-00 | ELECT 10MF | 20% | 6.3V |
| C609 | 1-163-021-00 | CERAMIC CHIP 0.01MF | 5% | 50V |
| C610 | 1-135-091-00 | TANTAL. CHIP 1MF | 10% | 16V |
| C611 | 1-163-810-00 | CERAMIC CHIP 0.03MF | 10% | 25V |
| C612 | 1-163-021-00 | CERAMIC CHIP 0.01MF | 5% | 50V |
| C613 | 1-163-021-00 | CERAMIC CHIP 0.01MF | 5% | 50V |
| C614 | 1-130-489-00 | MYLAR 0.033MF | 5% | 50V |
| C615 | 1-135-070-00 | TANTAL. CHIP 0.1MF | 20% | 35V |
| C616 | 1-163-035-00 | CERAMIC CHIP 0.047MF | 10% | 25V |
| C701 | 1-124-462-00 | ELECT 10MF | 20% | 16V |
| C702 | 1-124-461-11 | ELECT 4.7MF | 20% | 16V |
| C703 | 1-135-104-00 | TANTAL. CHIP 10MF | 20% | 4V |
| C704 | 1-163-081-00 | CERAMIC CHIP 0.22MF | | 25V |
| C705 | 1-163-117-00 | CERAMIC CHIP 100PF | 10% | 50V |
| CNJ301 | 1-507-723-00 | JACK, EXTENTION POWER | | |
| D301 | 8-719-104-37 | LED SR506D | | |
| D302 | 8-719-100-05 | DIODE 1S2837 | | |
| D303 | 8-719-100-05 | DIODE 1S2837 | | |
| D701 | 8-719-106-22 | DIODE RD7.5M-B1 | | |
| HP901 | 1-543-423-11 | HEAD, MAGNETIC (PLAYBACK) | | |
| IC301 | 8-759-910-18 | IC BA3304F | | |
| IC302 | 8-759-701-07 | IC NJM2063AM | | |
| IC303 | 8-759-200-95 | IC TA7688F | | |
| IC601 | 8-759-909-45 | IC CX20084 | | |
| IC602 | 8-759-958-14 | IC MSM58141RS | | |
| J301 | 1-507-727-00 | JACK 2P (PHONES) | | |
| L701 | 1-410-209-51 | INDUCTOR CHIP 27UH | | |
| M901 | X-3310-922-1 | MOTOR | | |
| Q302 | 8-729-903-10 | TRANSISTOR FMW1 | | |
| Q303 | 8-729-106-44 | TRANSISTOR 2SB624-BV4 | | |
| Q304 | 8-729-903-10 | TRANSISTOR FMW1 | | |

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | | |
|---|---|---|---|---|---|
| Q305 | 8-729-100-76 | TRANSISTOR 2SA812 | | | |
| Q601 | 8-729-101-07 | TRANSISTOR 2SB798 | | | |
| Q602 | 8-729-100-66 | TRANSISTOR 2SC1623 | | | |
| Q701 | 8-729-100-66 | TRANSISTOR 2SC1623 | | | |
| Q702 | 8-729-159-64 | TRANSISTOR 2SD596 | | | |
| Q703 | 8-729-100-66 | TRANSISTOR 2SC1623 | | | |
| R101 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R102 | 1-216-101-00 | METAL CHIP | 150K | 5% | 1/10W |
| R103 | 1-216-117-00 | METAL CHIP | 680K | 5% | 1/10W |
| R104 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R105 | 1-216-748-11 | METAL CHIP | 39K | 5% | 1/10W |
| R106 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R107 | 1-216-112-00 | METAL CHIP | 430K | 5% | 1/10W |
| R108 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R109 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R110 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W |
| R111 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R112 | 1-216-306-11 | METAL CHIP | 3.9 | 5% | 1/10W |
| R113 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R114 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R115 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R201 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R202 | 1-216-101-00 | METAL CHIP | 150K | 5% | 1/10W |
| R203 | 1-216-117-00 | METAL CHIP | 680K | 5% | 1/10W |
| R204 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R205 | 1-216-748-11 | METAL CHIP | 39K | 5% | 1/10W |
| R206 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R207 | 1-216-112-00 | METAL CHIP | 430K | 5% | 1/10W |
| R208 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R209 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R210 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W |
| R211 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R212 | 1-216-306-11 | METAL CHIP | 3.9 | 5% | 1/10W |
| R213 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R214 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R215 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R301 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R302 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R303 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R304 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R305 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R306 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R307 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R308 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R309 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R310 | 1-216-129-00 | METAL CHIP | 2.2M | 5% | 1/10W |
| R311 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R312 | 1-216-056-00 | METAL CHIP | 2K | 5% | 1/10W |
| R313 | 1-216-001-00 | METAL CHIP | 10 | 5% | 1/10W |
| R601 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R602 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R603 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R604 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R605 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | | |
|---|---|---|---|---|---|
| R606 | 1-216-058-00 | METAL CHIP | 2.4K | 5% | 1/10W |
| R607 | 1-216-093-00 | METAL CHIP | 68K | 5% | 1/10W |
| R608 | 1-216-092-00 | METAL CHIP | 62K | 5% | 1/10W |
| R609 | 1-216-101-00 | METAL CHIP | 150K | 5% | 1/10W |
| R610 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R611 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R612 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R613 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R614 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R701 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R702 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R703 | 1-216-113-00 | METAL CHIP | 470K | 5% | 1/10W |
| R704 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| RV101 | 1-237-299-11 | RES, ADJ, METAL GLAZE 2.2K (PB LEVEL) | | | |
| RV201 | 1-237-299-11 | RES, ADJ, METAL GLAZE 2.2K (PB LEVEL) | | | |
| RV301 | 1-230-485-11 | RES, VAR, CARBON 10K/10K (VOLUME) | | | |
| RV601 | 1-237-301-11 | RES, ADJ, METAL GLAZE 22K (SPEED) | | | |
| S301 | 1-553-280-00 | SWITCH, SLIDE (NOR/METAL CrO2) | | | |
| S302 | 1-554-585-00 | SWITCH, SLIDE (M-N)(DOLBY NR) | | | |
| S901 | 1-553-226-00 | SWITCH, LEAF (POWER) | | | |
| T701 | 1-447-697-00 | TRANSFORMER, DC-DC CONVERTOR | | | |
| X601 | 1-567-260-11 | VIBRATOR, CRYSTAL (27.77kHz) | | | |

ACCESSORY & PACKING MATERIAL

| Part No. | Description |
|---|---|
| 3-318-523-01 | SPACER |
| 3-318-524-01 | CUSHION |
| 3-324-436-01 | INDIVIDUAL CARTON |
| 3-324-439-01 | CASE, CARRYING |
| 3-570-631-61 | BAG, POLYETHYLENE |
| 3-703-895-01 | LABEL, COLOR (BLACK) |
| 3-703-905-01 | LABEL, COLOR (RED) |
| 3-703-906-01 | LABEL, COLOR (SILVER) |
| 3-704-016-01 | LABEL, COLOR (BLACK) |
| 3-704-026-01 | LABEL, COLOR (RED) |
| 3-704-027-01 | LABEL, COLOR (SILVER) |
| 3-765-927-11 | MANUAL, INSTRUCTION |
| 3-765-927-41 | MANUAL, INSTRUCTION |
| 8-951-092-90 | MDR-15L SET |

Sony Corporation
Audio Group

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9-952-670-11
(Including 9-952-670-91)